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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/091,514	03/07/2002	Fumio Tajima	381NP/48224CO	1645

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EXAMINER

NGUYEN, TRAN N

ART UNIT PAPER NUMBER

2834

DATE MAILED: 12/04/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/091,514

Applicant(s)

TAJIMA ET AL.

Examiner

Tran N. Nguyen

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 23 October 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 1 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 1 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. 09/400437.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Drawings

The drawing, **particularly figure 13**, is objected to under 37 CFR 1.83(a) because figure 13 fails to show **the projecting magnetic core portions 73 arranged in the outer peripheral side of the rotor core 7**, as described in the specification page 23, instead figure 13 shows a rotor core having substantially circular inner and outer faces.

Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the ***rotor core is divided at a middle position of a width in the circumferential direction of said permanent magnet*** must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

The spec. is objected because of the following:

Page 23, line 19-23, "the units of two poles are assembled by being wound in one turn" is unclear because the rotor core is laminated having permanent magnets, not winding to be wound in a number of turn. Clarification is required.

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: Electric Vehicle with Rotary Electric Machine having divided core.

Claim objection

1. Claim 12 is object because of the following:

In claim 12, "outer rotor type electrical machine" should be changed to "outer-rotor electrical machine".

Claim Rejections - 35 USC § 112

Claim 13 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 13, "said electric vehicle" lacks antecedent basis.

Obviousness-type Double Patenting

The non-statutory double patenting rejection, whether of the obviousness-type or non-obviousness-type, is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent. *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); and *In re Goodman*, 29 USPQ2d 2010 (Fed. Cir. 1993).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(b) and © may be used to overcome an actual or provisional rejection based on a non-statutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.78(d).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 9-11 and 13 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over **claims 5-8 of U.S. Patent 6452302** (hereafter **Pat'302**) in view of ordinary skills of a worker in the art.

The subject matter claimed in the instant application is fully disclosed in the patent and is covered by the claims 5-8 of Pat'302 since the patent. The present application differs from the Pat'302 only in the following respects:

- (a) the rotor core is divided in to several units, each unit including a plurality of magnetic poles and permanent magnets, along with rotor yokes opposite thereto;
- (b) the core is divide in middle position of a width in the circumferential direction of the magnets;
- (c) the rotary electric machine as claimed is used in a vehicle; and,
- (d) the machine is a outer-rotor machine.

Regarding respects (a-b), the Pat'302 rotor is divided by a number of magnetic poles, i.e., each unit having one magnetic pole and a permanent magnet instead of a plurality of magnetic poles and permanent magnets.

However, as stated in the spec., pages 23-24, the rotor 2 being formed of units of two poles. The dividing position of the rotor core 7 is selected at a position between the poles of the permanent magnets 6. The rotor 2 is divided in the unit of two poles and at the middle position of the width in the circumferential direction of the projecting pole core portion 73. *Of course, it is possible* to divide at the middle position of the width in the circumferential direction of the permanent magnet 6.

The disclosure fails to provide any significant advantages of dividing the rotor 2 into units, each of which having two poles and two magnets. Furthermore, by merely stating that *of course, it is possible* to divide at the middle position of the width in the circumferential direction of the permanent magnet, the disclosure most likely implies that unit of core division and the position where the core division should taking place is a matter of obvious engineering design choice.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the Pat'302 by configuring the core being divided in to several units, each unit including a plurality of magnetic poles and permanent magnets, along with rotor yokes opposite thereto; and, the core is divide in middle position of a width in the circumferential direction of the magnets. Doing so would be a matter of obvious engineering design choice and would require only ordinary skills in the art since it has been held that where the general conditions of a claim are disclosed, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233. (Emphasis added).

Regarding respect (c), electric vehicle uses rotary electric machine is well known in the art. the recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963).

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to employ the machine in an electrical vehicle because electrical vehicle having rotary electric machine is well known in the art.

Regarding respect (d), electric machines having outer rotors, particularly permanent magnet outer rotors, are well known in the art (see cited refs for support evidence). Rotary electric machine having outer rotor would generally having larger inertial and angle velocity compare to inner-rotor machine.

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made arrange the rotor to be an outer rotor because this would increase the inertial and angle velocity thereof.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

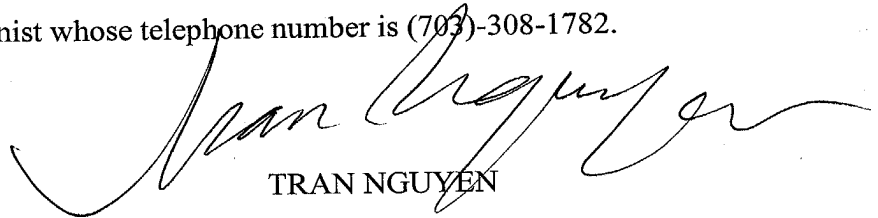
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Communication

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tran N Nguyen whose telephone number is (703) 308-1639. The examiner can normally be reached on M-F 6:00AM-2:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on (703)-308-1371. The fax phone numbers for the organization where this application or proceeding is assigned are (703)305-3431 for regular communications and (703)-395-3432 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)-308-1782.



TRAN NGUYEN
PRIMARY PATENT EXAMINER

TC-2800